

Suspended

Trend Study 2-7-96

Study site name: Spawn Creek.

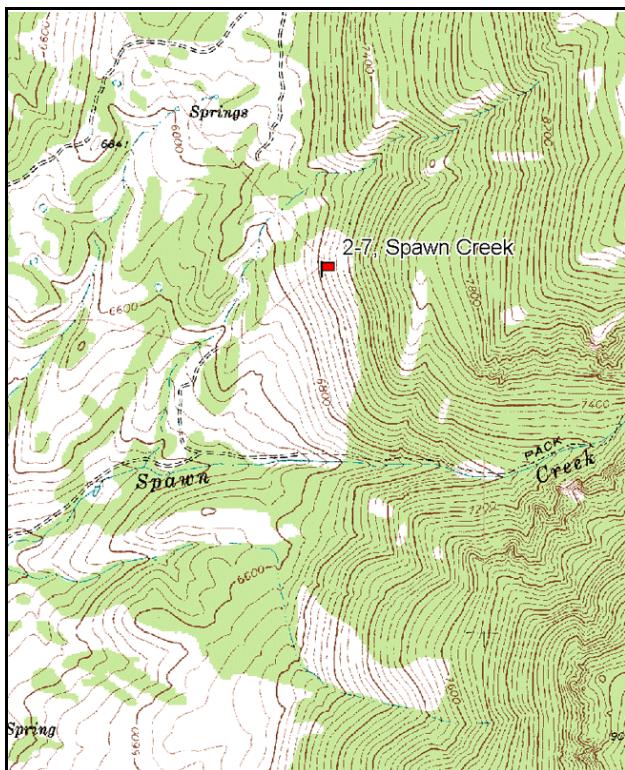
Vegetation type: Mountain Brush.

Compass bearing: frequency baseline 146 degrees magnetic

Frequency belt placement: line 1 (11 & 95ft), line 2 (34ft), line 3 (59ft), line 4 (71ft).

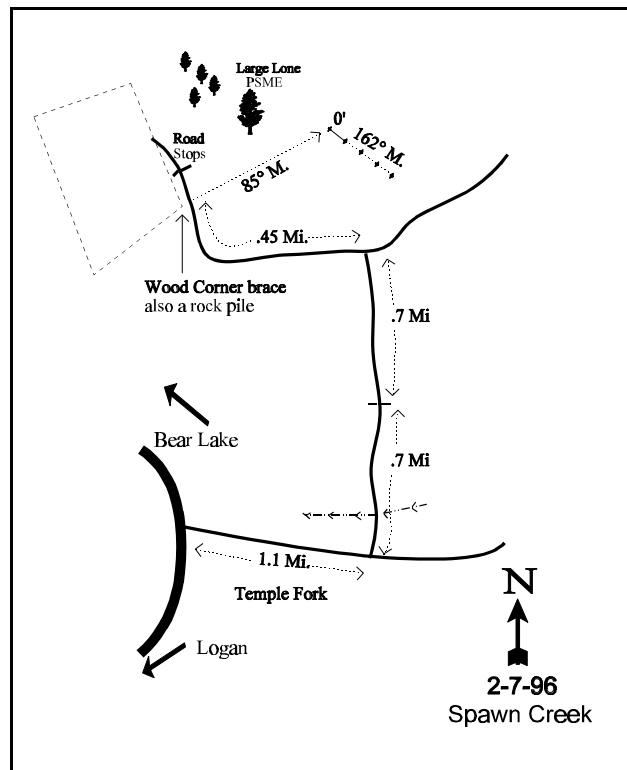
LOCATION DESCRIPTION

Proceed up Logan Canyon to the Temple Fork cut-off and turn right. Note mileage here and travel 1.1 miles up Temple Fork to a point where the road splits and crosses the creek to the left. Ford the creek and proceed straight 0.7 miles to the end of the road. From the road closure, walk up the road for 0.7 miles to a sharp left-hand fork. Turn left and walk 0.45 miles to the lip of a hill; note that road begins to run immediately to the right of a fence at the bottom of this short slope. At the lip of the slope note a large, lone mountain mahogany on right side with a green stake imbedded two feet away. Take a bearing of 85 degrees magnetic from the stake to the 0-foot baseline stake, which is about 30 paces past a large, lone Douglas fir. 0-foot stake is marked with browse tag #7930. Baseline runs at 162 degrees magnetic.



Map Name: Temple Peak

Township 13N, Range 3E, Section 30



Diagrammatic Sketch

UTM 4632638 N, 454374 E

DISCUSSION

Trend Study No. 2-7

***SUSPENDED - This site was suspended in 2001 and will be reevaluated in 2006.

The Spawn Creek study is a moderately high elevation (6,760 feet) site located in the Spawn Creek drainage. It is used primarily as elk winter range, but the area also appears to be a good quality spring-fall range and/or fawning habitat for deer. The study site is a densely vegetated mixed mountain brush type on a moderately steep, west-southwest facing slope. Other plant communities in the immediate vicinity include conifer, aspen, curlleaf mountain mahogany, mountain big sagebrush-grass, and riparian zones which contain wet and dry meadows and numerous beaver ponds. The site is on USFS land and is grazed by cattle. A few deer and elk pellet groups were encountered, but use of this area by wildlife appears light.

Soil is a moderately deep loam with nearly equal amounts of sand, silt, and clay. Percent organic matter is high (6.8%) with a neutral soil reaction (pH of 7.2). Surface litter and vegetative cover are dense and continuous, interrupted only by an occasional livestock or wildlife trail. There is no apparent erosion.

Browse is the principal vegetative component and consists of several co-dominant species. These include mountain snowberry, mountain big sagebrush, black chokecherry, antelope bitterbrush, Saskatoon serviceberry, and snowbrush ceanothus. Less abundant shrubs are comprised of stickyleaf low rabbitbrush, Rocky Mountain maple, curlleaf mountain mahogany, Rocky Mountain juniper, Oregon hollygrape, and woods rose. Composition is highly diverse and appears essentially stable. Most browse species display little to no use except serviceberry, mountain big sagebrush, bitterbrush, and occasionally a snowberry which showed some moderate to heavy use. Use of these shrubs has declined since 1984 when much heavier use was reported. Although cattle graze the area in the summer, their impact appears negligible.

Grass composition is also diverse and includes several desirable species. Grass species in their approximate order of abundance are bluebunch wheatgrass, mountain brome, Kentucky bluegrass, subalpine needlegrass, and oniongrass. Utilization is light on all species. However, some current use from cattle was apparent during past readings. The grass component is vigorous and is uniformly distributed over the entire study site.

Forb composition is especially diverse and includes many good quality species which show light levels of use. The forb component also has good vigor and shows little sign of compositional change.

1984 APPARENT TREND ASSESSMENT

Both soil and vegetative trends appear stable. Soil erosion is nearly nonexistent due to an almost complete cover of litter and vegetation of varying heights. Vegetative diversity is exceptional and unlikely to change in the future, unless the intensity of animal use increases significantly.

1990 TREND ASSESSMENT

The herbaceous understory is a key component on this high elevation winter and/or transition range. Meaningful increases were noted in several species with regard to sum of nested frequency and quadrat frequency values for grasses and forbs. Most of the grasses and forbs have increased with all plants exhibiting good vigor. Snowberry, Saskatoon serviceberry, snowbrush ceanothus, and big sagebrush are the most abundant and valuable of the browse species. Sagebrush canopy cover averaged about 9%. The most palatable browse plants include bitterbrush, serviceberry, and *Ceanothus*, which have been moderately hedged. Overall trends for the browse species are unchanged. Soil erosion is negligible.

TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - up slightly (4)

1996 TREND ASSESSMENT

Trend for soil continues to be stable with abundant vegetation and litter cover. Percent litter cover did decline slightly since 1990, but percent bare ground also declined. Trend for browse appears stable for the key species. Density of sagebrush declined from 1,399 to 760 plants/acre since 1990, probably more a function of the much larger sampling design used this year. It appears that the number of mature sagebrush remained similar, while the number of decadent plants declined. Other key browse species display stable population densities with most showing less heavy use than in 1990. Trend for the herbaceous understory is stable. Sum of nested frequency of perennial grasses increased slightly, whereas frequency of perennial forbs declined. Overall trend appears stable.

TREND ASSESSMENT

soil - stable (3)

browse - stable (3)

herbaceous understory - stable (3)

HERBACEOUS TRENDS --

Herd unit 02 , Study no: 7

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %
		'84	'90	'96	'84	'90	'96	
G	Agropyron spicatum	a65	a32	b206	24	15	69	10.06
G	Agropyron trachycaulum	a44	b105	a34	21	41	11	.58
G	Bromus marginatus	a96	b166	a105	41	67	40	2.17
G	Carex spp.	-	3	-	-	1	-	-
G	Melica bulbosa	4	10	2	2	6	1	.03
G	Poa pratensis	7	14	16	4	5	8	.71
G	Stipa columbiana	18	7	16	11	4	5	.14
G	Stipa lettermani	a-	b10	ab3	-	5	1	.00
Total for Annual Grasses		0	0	0	0	0	0	0
Total for Perennial Grasses		234	347	382	103	144	135	13.71
Total for Grasses		234	347	382	103	144	135	13.71
F	Achillea millefolium	ab35	a29	b49	15	11	22	.33
F	Agastache urticifolia	8	7	5	5	4	3	.33
F	Arabis spp.	a-	b25	a7	-	11	4	.02
F	Aster chilensis	ab17	b37	a9	9	16	5	.36
F	Astragalus convallarius	1	6	-	1	3	-	-
F	Balsamorhiza hookeri	-	3	-	-	2	-	-

T y p e	Species	Nested Frequency			Quadrat Frequency			Average Cover %
		'84	'90	'96	'84	'90	'96	
F	Balsamorhiza sagittata	25	21	19	14	13	8	2.45
F	Calochortus nuttallii	1	2	-	1	1	-	-
F	Chenopodium fremontii (a)	-	-	3	-	-	1	.00
F	Cirsium spp.	5	2	1	2	1	1	.03
F	Collomia linearis (a)	^a 3	^a -	^b 13	1	-	6	.03
F	Comandra pallida	29	41	36	12	20	16	.59
F	Collinsia parviflora (a)	-	-	56	-	-	23	.14
F	Crepis acuminata	35	64	38	24	30	18	.53
F	Cruciferae	-	3	-	-	1	-	-
F	Descurainia pinnata (a)	-	1	-	-	1	-	-
F	Eriogonum umbellatum	12	26	20	5	14	11	1.24
F	Hackelia patens	6	7	-	3	4	-	.03
F	Helianthella uniflora	^a -	^a -	^b 34	-	-	14	2.07
F	Lappula occidentalis (a)	-	-	9	-	-	3	.04
F	Linum lewisii	-	1	5	-	1	2	.18
F	Lithospermum ruderale	3	-	4	2	-	2	.16
F	Lupinus sericeus	^b 63	^a 39	^a 42	29	19	20	2.01
F	Machaeranthera canescens	^a 5	^b 24	^b 25	2	11	11	.76
F	Microsteris gracilis (a)	-	-	19	-	-	7	.03
F	Penstemon cyananthus	4	9	8	3	5	4	.19
F	Penstemon humilis	2	6	5	2	4	3	.04
F	Polygonum douglasii (a)	-	-	10	-	-	4	.02
F	Senecio integerrimus	^b 19	^c 35	^a -	10	20	-	-
F	Taraxacum officinale	-	4	-	-	2	-	-
F	Tragopogon dubius	-	4	6	-	3	2	.01
F	Unknown forb-perennial	-	3	8	-	1	3	.01
F	Veronica biloba (a)	-	-	158	-	-	52	1.72
F	Viola spp.	^a -	^b 58	^a -	-	32	-	-
F	Wyethia amplexicaulis	^b 46	^a 8	^a -	20	4	-	.00
Total for Annual Forbs		3	1	268	1	1	96	2.00
Total for Perennial Forbs		316	464	321	159	233	149	11.40
Total for Forbs		319	465	589	160	234	245	13.40

Values with different subscript letters are significantly different at alpha = 0.10 (annuals excluded)

BROWSE TRENDS --

Herd unit 02 , Study no: 7

T y p e	Species	Strip Frequency '96	Average Cover % '96
B	Acer grandidentatum	1	.15
B	Amelanchier alnifolia	8	.36
B	Artemesia tridentata vaseyana	35	4.51
B	Ceanothus velutinus	12	2.63
B	Chrysothamnus viscidiflorus viscidiflorus	8	.89
B	Eriogonum heracleoides	27	1.23
B	Eriogonum microthecum	2	.15
B	Mahonia repens	82	5.70
B	Prunus virginiana	27	1.82
B	Purshia tridentata	9	1.16
B	Symphoricarpos oreophilus	76	15.50
Total for Browse		287	34.15

BASIC COVER --

Herd unit 02 , Study no: 7

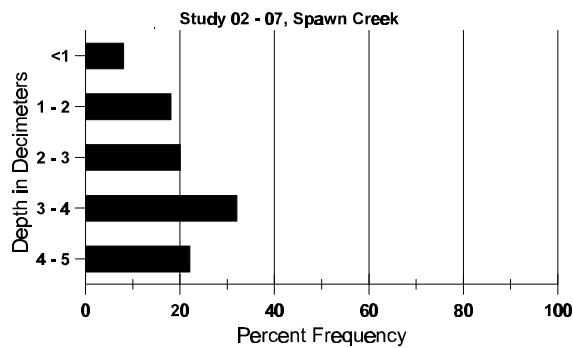
Cover Type	Nested Frequency '96	Average Cover %		
		'84	'90	'96
Vegetation	352	.50	6.50	57.27
Rock	186	3.50	3.50	3.09
Pavement	137	3.75	1.25	1.32
Litter	397	84.00	76.25	66.00
Cryptogams	2	0	0	.03
Bare Ground	151	8.25	12.50	4.26

SOIL ANALYSIS DATA --

Herd Unit 02, Study no: 07, Spaw Creek

Effective rooting depth (in)	Temp °F (depth)	PH	%sand	%silt	%clay	%0M	PPM P	PPM K	dS/m
19.2	56.0 (17.6)	7.2	36.6	31.1	32.4	6.8	21.6	326.4	.5

Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 02 , Study no: 7

Type	Quadrat Frequency '96
Elk	10
Deer	3
Cattle	2

BROWSE CHARACTERISTICS --

Herd unit 02 , Study no: 7

A Y G R E	Form Class (No. of Plants)	Vigor Class									Plants Per Acre	Average (inches) Ht. Cr.	Total	
		1	2	3	4	5	6	7	8	9				
<i>Acer grandidentatum</i>														
M	84	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	1	-	-	-	-	-	-	-	1	-	-	-	1
% Plants Showing		Moderate Use			Heavy Use			Poor Vigor			%Change			
	'84	00%			00%			00%						
	'90	00%			00%			00%						
	'96	00%			00%			00%						
Total Plants/Acre (excluding Dead & Seedlings)										'84	0	Dec:	-	
										'90	0		-	
										'96	20		-	

A G E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total										
		1	2	3	4	5	6	7	8	9	1	2	3	4													
Amelanchier alnifolia																											
Y	84	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1										
	90	-	-	-	1	-	-	-	-	-	1	-	-	-	66		1										
	96	3	-	-	-	-	-	-	-	-	-	3	-	-	60		3										
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0										
	90	1	-	1	-	-	-	1	-	-	2	-	-	1	200	39 18	3										
	96	5	-	2	-	-	-	-	-	-	4	3	-	-	140	37 54	7										
D	84	-	-	1	-	-	-	-	-	-	-	-	1	-	66		1										
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	20		1										
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>															
'84		00%			50%			50%				+50%															
'90		00%			25%			25%				-25%															
'96		00%			20%			00%																			
Total Plants/Acre (excluding Dead & Seedlings)												'84	132	Dec:	50%												
												'90	266		0%												
												'96	200		0%												
Artemesia tridentata vaseyana																											
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
	90	2	-	-	1	-	-	-	-	-	2	1	-	-	200		3										
	96	1	-	-	-	-	-	-	-	-	1	-	-	-	20		1										
Y	84	-	2	1	-	-	-	-	-	-	2	1	-	-	200		3										
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
	96	3	-	-	-	-	-	-	-	-	3	-	-	-	60		3										
M	84	-	1	9	-	-	-	-	-	-	6	-	4	-	666	29 23	10										
	90	9	1	-	1	-	-	-	-	-	8	2	1	-	733	31 33	11										
	96	21	7	-	2	-	-	-	-	-	28	-	2	-	600	28 38	30										
D	84	-	4	19	-	-	-	-	-	-	11	3	9	-	1533		23										
	90	9	-	1	-	-	-	-	-	-	8	-	-	2	666		10										
	96	4	1	-	-	-	-	-	-	-	3	-	-	2	100		5										
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0										
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	220		11										
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>				<u>%Change</u>															
'84		19%			81%			36%				-42%															
'90		05%			05%			14%				-46%															
'96		21%			00%			11%																			
Total Plants/Acre (excluding Dead & Seedlings)												'84	2399	Dec:	64%												
												'90	1399		48%												
												'96	760		13%												

A G E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total						
		1	2	3	4	5	6	7	8	9	1	2	3	4									
<i>Ceanothus velutinus</i>																							
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0						
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0						
	96	-	1	-	-	-	-	-	-	-	1	-	-	-	20		1						
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0						
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0						
	96	18	2	-	-	-	-	-	-	-	15	5	-	-	400	22	36						
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>												
'84		00%			00%			00%															
'90		00%			00%			00%															
'96		14%			00%			00%															
Total Plants/Acre (excluding Dead & Seedlings)										'84	0	Dec:	-										
										'90	0		-										
										'96	420		-										
<i>Chrysothamnus viscidiflorus viscidiflorus</i>																							
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0						
	90	-	-	-	-	-	-	1	-	-	1	-	-	-	66	24	41						
	96	14	-	-	1	-	-	-	-	-	15	-	-	-	300	17	19						
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0						
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0						
	96	1	-	-	-	-	-	-	-	-	-	-	-	-	1	20	1						
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>												
'84		00%			00%			00%															
'90		00%			00%			00%									+79%						
'96		00%			00%			06%															
Total Plants/Acre (excluding Dead & Seedlings)										'84	0	Dec:	0%										
										'90	66		0%										
										'96	320		6%										
<i>Eriogonum heracleoides</i>																							
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0						
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0						
	96	54	-	-	3	-	-	-	-	-	57	-	-	-	1140	8	17						
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>												
'84		00%			00%			00%															
'90		00%			00%			00%															
'96		00%			00%			00%															
Total Plants/Acre (excluding Dead & Seedlings)										'84	0	Dec:	-										
										'90	0		-										
										'96	1140		-										

A G E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total	
		1	2	3	4	5	6	7	8	9	1	2	3	4				
<i>Eriogonum microthecum</i>																		
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	96	4	-	-	-	-	-	-	-	-	4	-	-	-	80	10	26	4
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
	'84	00%			00%			00%										
	'90	00%			00%			00%										
	'96	00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	-			
												'90	0	-				
												'96	80	-				
<i>Mahonia repens</i>																		
Y	84	308	-	-	-	-	-	-	-	-	308	-	-	-	20533		308	
	90	22	-	-	16	-	-	2	-	-	33	7	-	-	2666		40	
	96	123	-	-	70	-	-	-	-	-	193	-	-	-	3860		193	
M	84	168	-	-	-	-	-	-	-	-	168	-	-	-	11200	6	168	
	90	53	-	-	26	-	-	15	-	-	66	28	-	-	6266	4	94	
	96	728	-	-	180	-	-	-	-	-	908	-	-	-	18160	5	908	
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
	'84	00%			00%			00%			-72%							
	'90	00%			00%			00%			+59%							
	'96	00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'84	31733	Dec:	-			
												'90	8932	-				
												'96	22020	-				

A G E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total									
		1	2	3	4	5	6	7	8	9	1	2	3	4												
<i>Prunus virginiana</i>																										
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
	96	5	-	-	4	-	-	-	-	-	9	-	-	-	180		9									
Y	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
	90	9	-	-	13	-	-	6	-	-	13	15	-	-	1866		28									
	96	59	-	-	10	-	-	-	-	-	69	-	-	-	1380		69									
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-									
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0									
	96	18	4	-	-	-	-	-	-	-	22	-	-	-	440	33	22									
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0									
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	40		2									
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>														
'84			00%			00%			00%																	
'90			00%			00%			00%			- 2%														
'96			04%			00%			00%																	
Total Plants/Acre (excluding Dead & Seedlings)												'84	0	Dec:	-											
												'90	1866		-											
												'96	1820		-											
<i>Purshia tridentata</i>																										
M	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-									
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-									
	96	-	6	2	-	-	-	-	-	-	7	-	-	1	160	19	45									
D	84	-	-	1	-	-	-	-	-	-	1	-	-	-	66		1									
	90	-	1	-	1	-	-	-	-	-	2	-	-	-	133		2									
	96	1	-	-	-	-	-	-	-	-	-	-	-	1	20		1									
% Plants Showing			<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>														
'84			00%			100%			00%			+50%														
'90			50%			00%			00%			+26%														
'96			67%			22%			22%																	
Total Plants/Acre (excluding Dead & Seedlings)												'84	66	Dec:	100%											
												'90	133		100%											
												'96	180		11%											

A G E	Y	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.	Total
		1	2	3	4	5	6	7	8	9	1	2	3	4			
Symphoricarpos oreophilus																	
S	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	96	2	-	-	9	-	-	-	-	-	11	-	-	-	220		11
Y	84	-	2	-	-	-	-	-	-	-	2	-	-	-	133		2
	90	11	1	-	4	-	-	3	-	-	16	3	-	-	1266		19
	96	12	-	-	6	-	-	-	-	-	17	1	-	-	360		18
M	84	9	8	-	-	-	-	-	-	-	17	-	-	-	1133	30 42	17
	90	11	3	-	5	3	-	4	-	-	22	4	-	-	1733	32 37	26
	96	128	1	1	3	-	-	-	-	-	132	-	-	1	2660	30 53	133
D	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	90	1	-	-	-	-	-	-	-	-	1	-	-	-	66		1
	96	4	4	-	1	-	-	-	-	-	4	-	-	5	180		9
X	84	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0		0
	96	-	-	-	-	-	-	-	-	-	-	-	-	-	40		2
% Plants Showing		Moderate Use			Heavy Use			Poor Vigor				%Change					
	'84	53%			00%			00%				+59%					
	'90	15%			00%			00%				+ 4%					
	'96	03%			.62%			04%									
Total Plants/Acre (excluding Dead & Seedlings)												'84	1266	Dec:	0%		
												'90	3065		2%		
												'96	3200		6%		